

**CORNETIUS, A NEW SUBGENUS OF AEDES, AND A REDESCRIPTION OF  
AEDES (CORNETIUS) COZI CORNET (DIPTERA: CULICIDAE)**

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*Abstract.*—*Cornetius*, a **new subgenus** of *Aedes* Meigen is characterized and diagnosed. *Aedes cozi* Cornet is removed from the subgenus *Stegomyia* Theobald and placed in the new monotypic subgenus *Cornetius* on the basis of a critical study of all known stages. The adult of both sexes, the pupa, and the larva of *Ae. (Cornetius) cozi* are described and illustrated. Its affinity to other subgenera of the genus *Aedes* is discussed. Information on type data, distribution, bionomics, and medical importance, and a taxonomic discussion of this species are presented.

*Key Words:* *Cornetius*, new subgenus, *Aedes cozi*, characteristics, systematics, Culicidae, Senegal

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Cornet (1973: 175) described *Aedes cozi* from specimens collected in eastern Senegal (Kedougou) and placed it in the subgenus *Stegomyia* Theobald. After critical study of both adults and the immature stages, it is apparent that *Ae. cozi* should not be in *Stegomyia*, as I noted previously (Huang 2001, 2002). This paper formally deals with the suggested taxonomic change for *Ae. cozi* with description herein of *Cornetius*, a new monotypic subgenus of the genus *Aedes* Meigen. The new subgenus is very distinct from other subgenera of the genus *Aedes* in all known stages. The adult of both sexes, the pupa, and the larva are here described and illustrated. Keys for the identification of this species were published previously (Huang 2001, 2002). Information on the type data, distribution, bionomics, medical importance, and a taxonomic discussion of this species are presented. The suggested abbreviation for the subgenus *Cornetius* is *Cor.*

MATERIALS AND METHODS

This study is based on specimens in the Department of Entomology, National Mu-

seum of Natural History, Smithsonian Institution (USNM). Other specimens were borrowed from individuals and institutions mentioned in the acknowledgments.

The terminology follows Harbach and Knight (1980, 1982) with the exception of “tarsal claws,” which is retained for “ungues.” The wing venational terms follow those of Belkin (1962). An asterisk (\*) following the abbreviation used (M = male, F = female, P = pupa and L = larva) indicates that all or some portion of that sex or stage is illustrated.

Genus *Aedes* Meigen

***Cornetius* Huang, new subgenus**

Type species: *Aedes cozi* Cornet, 1973, by present designation

*Aedes (Stegomyia)* of Cornet 1973: 175.

*Characteristics.*—The subgenus *Cornetius* is characterized by the following combination of characters: *Adult (both sexes)*: (1) Vertex with all broad, flat decumbent scales, erect forked scales numerous, not restricted to occiput; (2) maxillary palpus of

male about as long as proboscis, 5-segmented, dark, with a white band at base of palpomeres 2-5, those on palpomeres 4,5 incomplete ventrally; palpomeres 4,5 very short (total length of palpomeres 4 and 5 shorter than palpomere 3), somewhat downturned with a few short setae; palpomere 4 slightly swollen, with a few short stiff setae at apex; palpomere 5 shorter than palpomere 4, somewhat narrowed toward tip, downturned; maxillary palpus of female about 0.25 length of proboscis, dark, with white band at base of palpomeres 2 and 3, palpomere 4 minute, with all dark scales; (3) pedicel with long patch of white broad, flat scales on mesal surface; (4) acrostichal setae absent; (5) paratergite with broad white scales; (6) postspiracular setae present; (7) lower prealar scale-patch absent; (8) subspiracular area with broad white scales; (9) postprocoxal membrane without scales; (10) lower mesepimeral setae present; (11) scutellum with all broad scales and with broad white scales on all lobes; (12) hindtarsus with a basal white band at least on tarsomeres 1-3. Male Genitalia; (13) Aedeagus strongly toothed; (14) claspette well developed, with numerous setae; (15) gonostylus elongate, rather flat, slightly expanded just beyond middle, narrow and curved toward tip, with a blunt, stout gonostylar claw apically on inner margin of slightly expanded subapical part; (16) paraproct with a sternal arm; cercal setae absent; (17) sternum IX with setae. *Female genitalia*: (18) Insula as long as or slightly longer than broad, with tuberculi, without setae; upper vaginal sclerite present; lower vaginal sclerite absent; (19) cerci short and broad; (20) 3 spermathecae, one slightly larger than other 2. *Pupa*: (21) Seta 6-CT single, long, stout, much longer and stouter than 7-CT; (22) seta 9-VI,VII single, long, stout, much longer and stouter than 9-I-V; (23) paddle margins with fringe of very fine hairlike spicules; apex notched; seta 1-P single, long. *Larva*: (24) Seta 4-C well developed, single, simple, closer to 6-C than 5-C, cephalad and mesad of 6-C; (25) seta

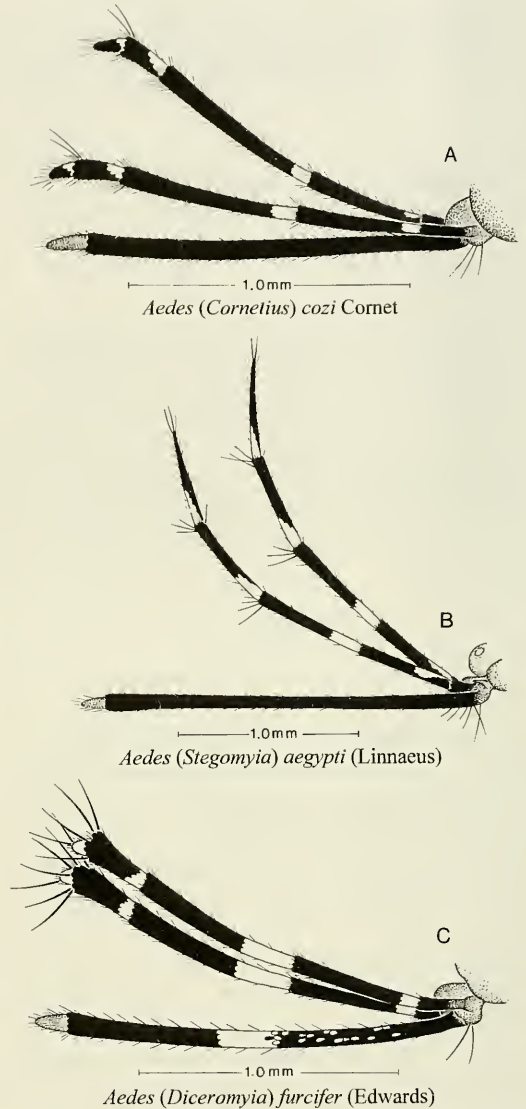


Fig. 1. Maxillary palpus and proboscis of males, lateral view. A, *Aedes (Cornetius) cozi*. B, *Aedes (Stegomyia) aegypti*. C, *Aedes (Diceromyia) furcifer*.

12-I absent; (26) seta 2-VIII distant from 1-VIII; (27) comb scales in a single row; (28) ventral brush (seta 4-X) with 5 pairs of setae on grid; (29) without precratal tufts; (30) seta 1-S single, long, inserted distal and dorsad of pecten spines. This combination of characters distinguishes *Cornetius* from all other subgenera of *Aedes*.

*Systematics*.—*Aedes cozi* is very distinct-

tive and has several unique features in both adults and immatures, as noted above, but it also shows a number of similarities with both *Diceromyia* Theobald and *Stegomyia*. The male genitalia, pupa, and larva of *Ae. cozi* are so strikingly different from all the known species in these two subgenera, as well as from other subgenera of *Aedes*, that I believe a distinct subgenus should be recognized for this species.

The subgenus *Cornetius* possesses some rather important basic characters in common with the subgenera *Aedimorphus* Theobald, *Albuginosus* Reinert, *Diceromyia* and *Stegomyia* of the genus *Aedes*: male maxillary palpus 5-segmented, aedeagus with conspicuous teeth, claspette developed, female insula longer than broad, larval seta 12-I not developed and pecten spines present. These shared characters indicate the affinity of *Cornetius* to these four subgenera.

The adult male and female of *Cornetius* are very similar in some characters to those of *Stegomyia*, such as having the vertex with all broad, flat decumbent scales and the scutellum with all broad scales. It can easily be distinguished from those of *Stegomyia* by the vertex with erect forked scales numerous, not restricted to occiput. The male of *Cornetius* is very similar to that of *Stegomyia* in having the maxillary palpus of the male 5-segmented, dark, with a white band at the bases of palpomeres 2–5. It can be easily distinguished from *Stegomyia* by the very short palpomeres 4,5 (the total length of palpomeres 4 and 5 shorter than palpomere 3), somewhat downturned and with a few short setae; palpomere 4 slightly swollen and with a few short stiff setae at apex; palpomere 5 shorter than palpomere 4, somewhat narrowed toward tip and downturned (see Fig. 1A). In *Stegomyia*, the maxillary palpus of the male has long palpomeres 4,5 (the total length of palpomeres 4 and 5 longer than palpomere 3), subequal in length, slender, upturned, and with only a few short setae (see Fig. 1B).

The male genitalia of *Cornetius* are very

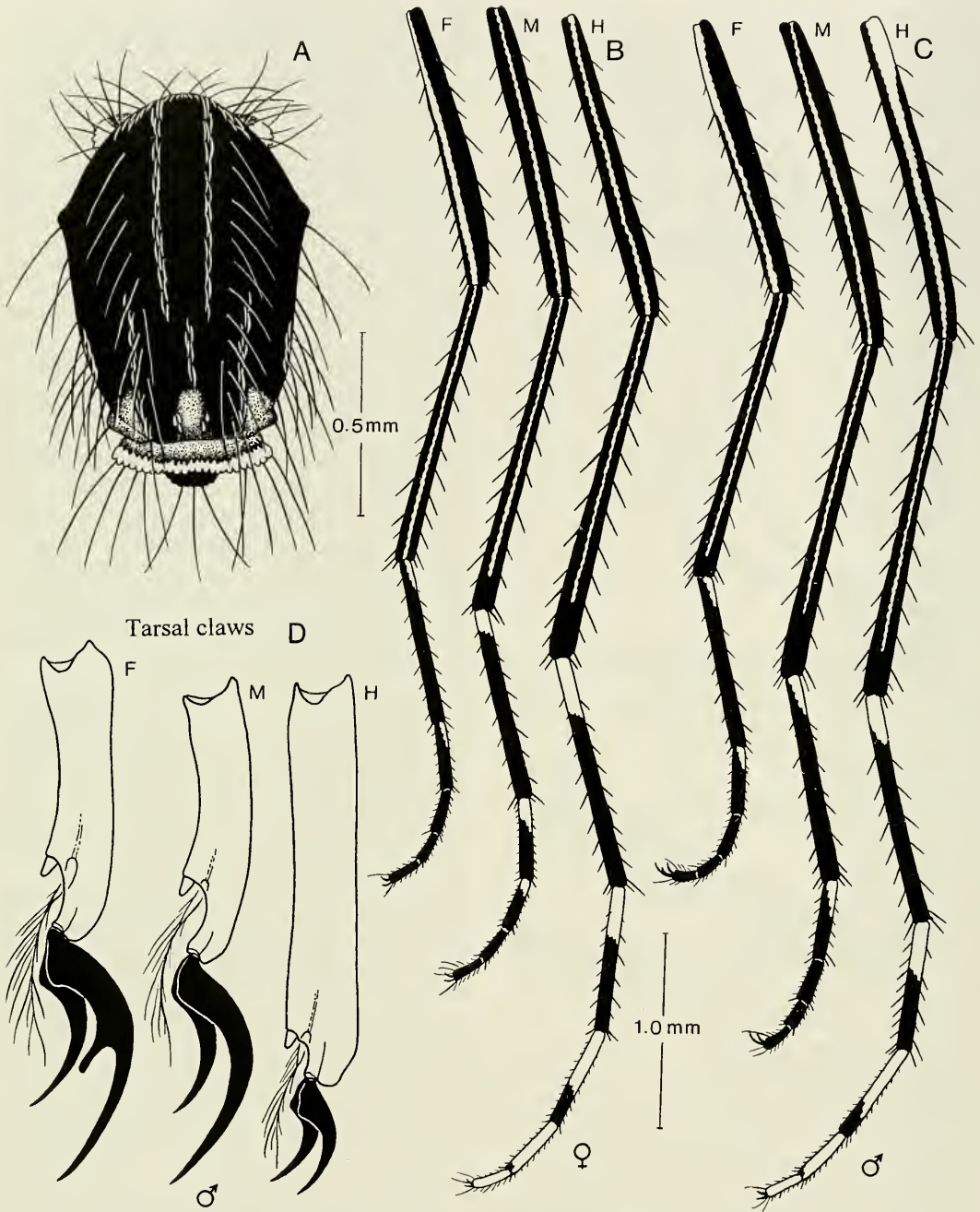
similar to those of *Stegomyia* in having the aedeagus strongly toothed and the claspette well developed and bearing numerous setae. They can easily be distinguished from those of *Stegomyia* by the gonostylus, which is elongate, rather flat, slightly expanded just beyond middle, narrow and curved toward apex, with a blunt, stout gonostylar claw apically on inner margin of slightly expanded subapical portion (see Fig. 4C), and by the sternum IX with setae (see Fig. 3C).

The maxillary palpus of the *Cornetius* male is very similar to that of species in subgenus *Diceromyia*. In *Diceromyia*, the maxillary palpus of the male has very short, swollen and downturned palpomeres 4,5 (the total length of palpomeres 4 and 5 shorter than palpomere 3), with a few short setae; palpomere 4 swollen, with a few short stiff setae at apex; and palpomere 5 much shorter than palpomere 4, or palpomere 5 minute (see Fig. 1C).

The adults of *Cornetius* can be distinguished from those of *Diceromyia* by having the pedicel with a long patch of white broad, flat scales on the mesal surface. The male genitalia of *Cornetius* have the paraproct with a sternal arm that is markedly different from all known species of *Diceromyia* (see Fig. 3A). In *Diceromyia*, the paraproct lacks a sternal arm. The paraproct with a sternal arm is shared with many, but not all, species of *Stegomyia*. The female genitalia of *Cornetius* have the insula rather short and broad, which is strikingly different from all the known species of *Diceromyia* (see Fig. 6A). In *Diceromyia*, the insula is long and narrow (see Reinert 2000, figs. 17–19).

The pupa of *Cornetius* has seta 6-CT single, long, stout, much longer and stouter than 7-CT, and seta 9-VI,VII, is single, long, stout, and much longer and stouter than 9-I-V, which are strikingly different from all the known species of *Diceromyia* (see Figs. 4A, B). In *Diceromyia*, seta 6-CT is single and short, much shorter than 7-CT, and seta 9-VI is small, single, and similar





*Aedes (Cornetius) cozi* Cornet

Fig. 2. *Aedes (Cornetius) cozi*. A, Thorax (dorsal view). B, Fore-, mid- and hindlegs (anterior view) of female. C, Fore-, mid- and hindlegs (anterior view) of male. D, Tarsal claws (fore-, mid- and hindlegs) of male.

to 9-I-V (see Huang 1986, figs. 4A, B). The larva of *Cornetius* has seta 4-C single, simple, and cephalomesad of 6-C, which is strikingly different from all the known species of *Diceromyia* (see Fig. 5A). The position of seta 4-C cephalomesad of 6-C is shared with *Stegomyia* (Huang 1979, 2004). In *Diceromyia*, seta 4-C is well developed, and caudomesad of 6-C (see Huang 1986, fig. 5A).

**Eymology.**—The subgeneric name, *Cornetius* (gender, masculine), honors Dr. Michel Cornet, Medical Entomologist, Services Scientifiques Centraux, Office de la Recherche Scientifique et Technique Outre-Mer (ORSTOM), and Chief, Medical Entomology Laboratory, Institute Pasteur de Dakar, Senegal. I am grateful for his kindness in welcoming me to the Medical Entomology Laboratory and allowing me to study the mosquito collections at his Laboratory in Dakar. The subgeneric patronym also recognizes his many contributions to our knowledge of the mosquito fauna of Africa.

**Distribution.**—Presently known only from Senegal.

**Bionomics.**—Females have been collected biting humans in gallery forests in Kedougou, Senegal.

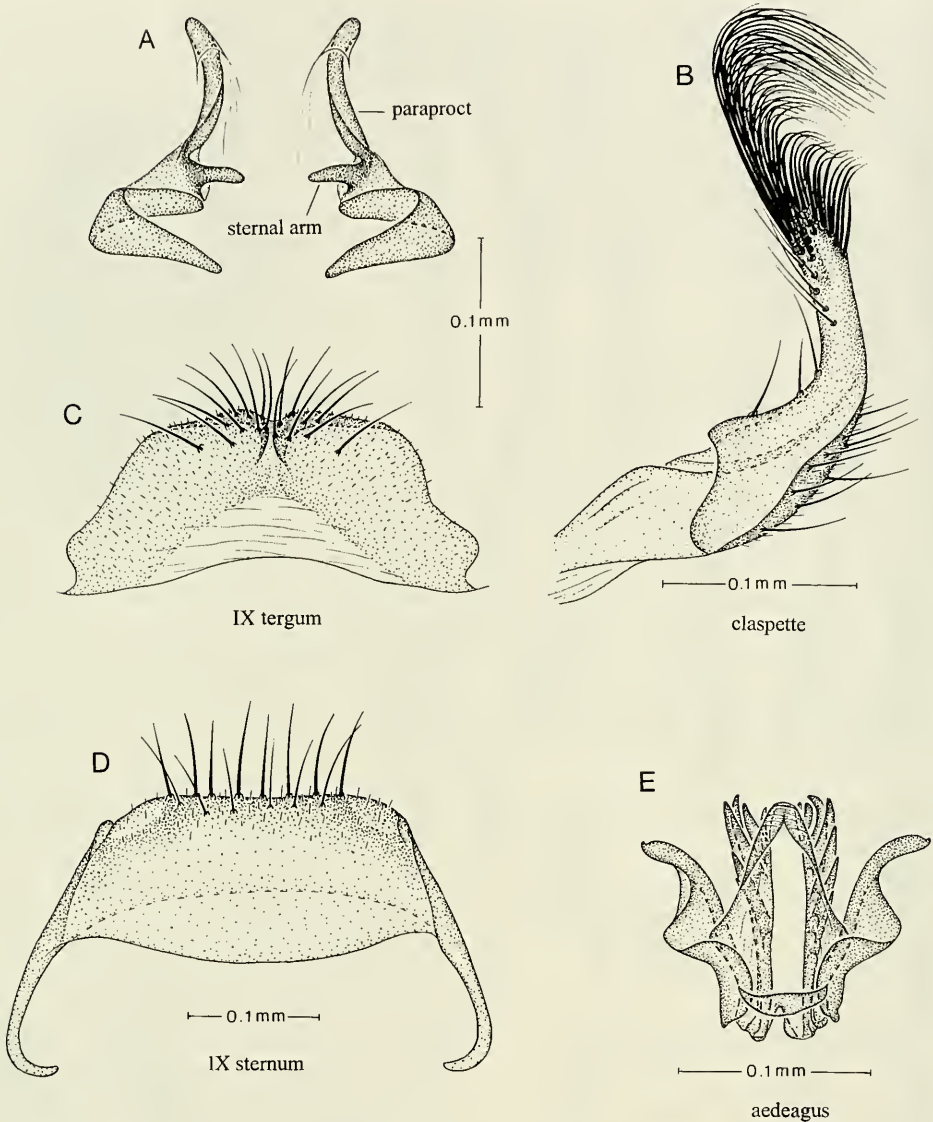
**Medical importance.**—Unknown.

*Aedes (Cornetius) cozi* Cornet  
(Figs. 1A, 2–6)

*Aedes (Stegomyia) cozi* Cornet 1973: 175  
(M\*, F\*, P\*, L\*).

**Female.**—**Head:** Proboscis entirely dark-scaled, about as long as forefemur; maxillary palpus about 0.25 length of proboscis, dark, with a white band at bases of palpomeres 2 and 3, palpomere 4 dark, minute; antennal pedicel covered with broad white scales on mesal surface; flagellomere 1 with small patch of white scales on mesal surface; clypeus bare; erect forked scales dark, not restricted to occiput; vertex with medial stripe of broad dark scales and distinct sub-medial stripe of broad white scales, with

broad dark scales on each side interrupted by lateral stripe of broad white scales, followed ventrally by patch of broad white scales. **Thorax** (Fig. 2A): Scutum with narrow dark scales, some white scales on anterior promontory and along anterior scutal margin, distinct submedian longitudinal white line of narrow scales from anterior margin to about the level of wing root, broad longitudinal line of narrow white scales on posterior dorsocentral area, short median white line of narrow scales reaching prescutellar area; prescutellar line of narrow white scales absent, with only a few white scales; patch of white scales on lateral margin in front of wing root; acrostichal setae absent; dorsocentral setae present and well developed; scutellum with broad white scales on all lobes and a few broad dark scales at apex of midlobe; antepnotum with broad white scales; postpronotum with stripe of broad white scales and some broad dark scales dorsally; paratergite with broad white scales; prespiracular setae absent; postspiracular setae present; postspiracular area with few broad white scales; hypostigmal area with small patch of broad white scales; patches of broad white scales on propleuron, subspiracular area, upper and lower areas of mesokatepisternum, and mesepimeron; lower mesepimeron with 1 seta; metameron and mesopostnotum bare. **Wing:** With dark scales on all veins except for minute basal spot of white scales on costa; upper calypter fringed with many hairlike setae; alula with a row of fringe scales and 3 decumbent scales on dorsal surface; vein 1A ending well beyond base of fork of vein Cu; cell R<sub>2</sub> about 1.5 length of R<sub>2+3</sub>. **Halter:** With dark scales. **Legs** (Fig. 2B): Coxae with patches of white scales; forefemur with a white line on anteroventral surface; mid- and hindfemora and fore-, mid- and hindtibiae with a medial white line on anterior surface; foretarsomere 1 with basal 0.15–0.18 white on dorsal surface; foretarsomere 2 with basal 0.31–0.40 white on dorsal surface; foretarsomeres 3–5 all dark; midtarsomere 1 with basal 0.16–0.20 white



*Aedes (Cornetius) cozi* Cornet

Fig. 3. *Aedes (Cornetius) cozi*. A, Paraproct (dorsal aspect). B, Claspette (dorsal aspect). C, IX tergum (dorsal aspects). D, IX sternum (dorsal aspect). E, Aedeagus (dorsal aspect).

on dorsal surface; midtarsomere 2 with basal 0.40–0.50 white on dorsal surface; midtarsomere 3 with basal 0.32–0.33 white on dorsal surface; midtarsomeres 4, 5 all dark; hindtarsus with a basal white band on tarsomeres 1–3, ratio of length of white band on dorsal surface to total length of tarsomeres 0.21–0.27, 0.40–0.45 and 0.66–0.75

respectively; hindtarsomere 4 all white except at apex on ventral surface; hindtarsomere 5 all white; fore-, mid- and hindlegs with tarsal claws equal, simple. *Abdomen*: Tergum I with white scales on laterotergite; terga II–VII with basal sublateral white spots only; tergum VIII with basal white band; sterna II–VII largely with white



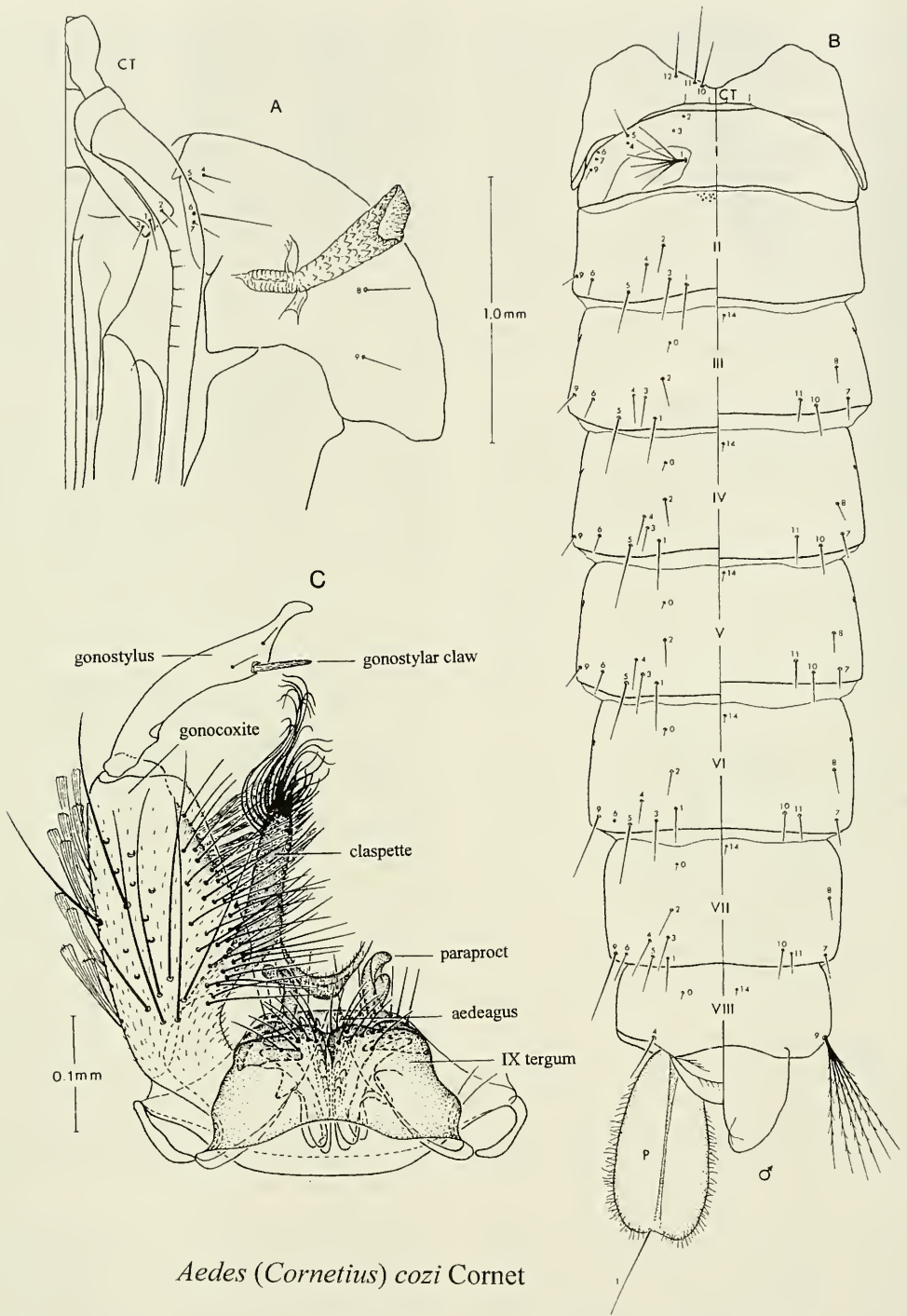
scales; segment VIII largely retracted. *Genitalia* (Fig. 6): Apical margin of sternum VIII with median notch and conspicuous rounded lateral lobes; insula as long as or slightly longer than wide, with minute spicules and 10–12 tuberculi on apical 0.4; upper vaginal sclerite present; lower vaginal sclerite absent; apical margin of tergum IX with well-developed lateral lobe, with 4 or 5 setae; apical margin of postgenital plate without small notch; cercus short and broad; 3 spermathecae, one slightly larger than other 2.

Male.—Essentially as in female, differing in following characters: *Head* (Fig. 1A): Maxillary palpus about as long as proboscis, 5-segmented, predominantly dark, with white band at bases of palpomeres 2–5, those on palpomeres 4,5 incomplete ventrally; palpomeres 4,5 very short, somewhat downturned and with only few short setae; palpomeres 4 and 5 together very short, shorter than palpomere 3, 0.40–0.44 length of palpomere 3; palpomere 4 slightly swollen, with a few short stiff setae at apex; palpomere 5 shorter than palpomere 4, somewhat narrow toward tip and downturned; antenna plumose, shorter than proboscis. *Wing*: Cell  $R_2$  1.2–1.5 length of  $R_{2+3}$ . *Legs* (Figs. 2C, D): Midtarsomere 3 all dark; foreleg with tarsal claws unequal, larger one toothed, smaller one simple; midleg with tarsal claws unequal, both simple. *Abdomen*: Tergum II with basolateral white spots; terga III–VII each with small basal sublateral white spots; terga I–VII all dark dorsally (Holotype specimen); sternum VIII with basolateral white spots. *Genitalia* (Figs. 3, 4C): Gonocoxite 2.2 times as long as wide (width measured 0.5 from base), scales restricted to dorsolateral, lateral and ventral surfaces, with dense scales on mesal margin of ventral surface, and setae scattered on dorsomesal surface; claspette long, reaching to 0.82 of gonocoxite, with row of short setae along mesal margin of apical part, numerous long, curved setae along lateral margin of apical part, 8 straight setae on lateral side of basal part, and 9 straight

setae on mesal side of basal part; gonostylus elongate, rather flat, about 0.86 length of gonocoxite, slightly expanded just beyond middle, narrow and curved toward tip, with a blunt, stout gonostylar claw apically on inner margin of slightly expanded subapical part; aedeagus with strongly toothed lateral plates; paraproct with a sternal arm; cercal setae absent; apical margin of tergum IX slightly concave medially, with 7–9 setae on each side; sternum IX with 8–10 larger setae in one row and 6 smaller setae in second row.

Pupa (Figs. 4A, B).—*Cephalothorax*: Trumpet 3.7 as long as wide (width measured 0.5 from base); setae 1–5-CT single, short; 6-CT single, long, stout, much longer and stouter than 7-CT; 7-CT single, short; 8,9-CT single; 10-CT single, caudomesad of 11-CT; 11-CT single, long; 12-CT single. *Abdomen*: Seta 1-I well developed, usually with 6 branches (6–8); 1-II single; 3-II,III single, short; 1-III,IV single; 5-IV,V single, short, not reaching beyond posterior margin of following segment; 6-III-V single, short, about as long as 9-III-V; 9-I-V small, single, simple; 9-VI,VII single, long, stout, much longer and stouter than 9-I-V; 9-VIII usually with 6 branches (3–8), barbed. *Paddle*: Oval, 2.0 as long as wide; margins with fringe of very fine hair-like spicules; apex notched; seta 1-P single, long.

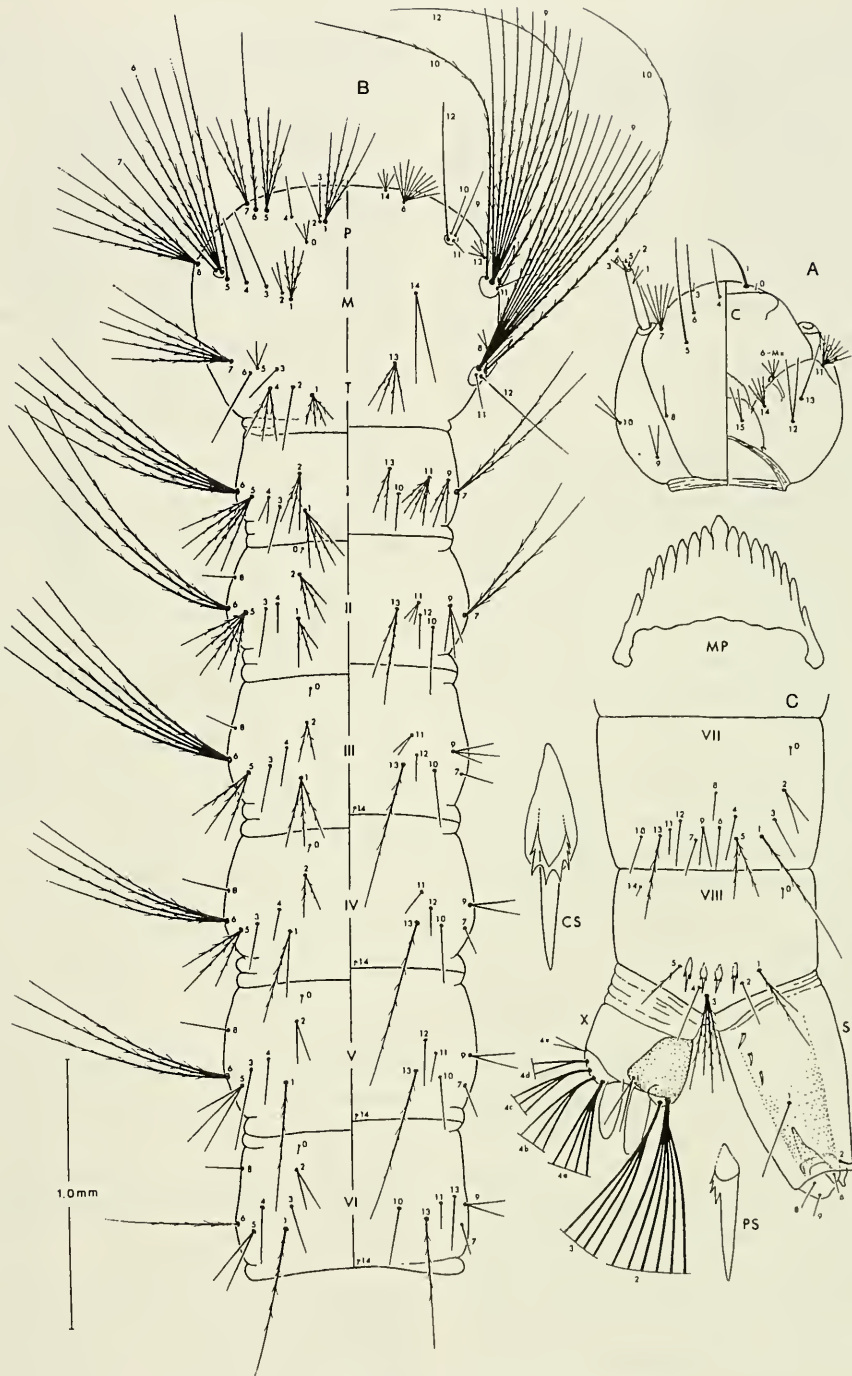
Larva (Fig. 5).—*Head*: Antenna without spicules; seta 1-A inserted on distal 0.25 of shaft, 2-branched; seta 1-C well developed, single, long, stout and curved; 4-C well developed, single, simple, closer to 6-C than 5-C, cephalad and mesad of 6-C; 6-C single, cephalad and mesad of 5-C; 5-C single, long, longer than 6-C; 4-C and 6-C cephalad of antenna base; 7-C usually with 6 branches (6–8); 8-C single; 9-C usually with 2 branches (1,2); 10-C usually with 2 branches (2–4); 11-C usually with 7 branches (6–11), barbed; 12-C usually with 2 branches (1,2); 13-C usually single (1–3); 14-C usually with 4 branches (3,4), barbed; 15-C usually with 2 branches (2–4); men-



*Aedes (Cornetius) cozi* Cornet

Fig. 4. *Aedes (Cornetius) cozi*. A, Dorsolateral aspect of the cephalothorax of the male pupa. B, Dorsal and ventral aspects of the metathorax and abdomen of the male pupa. C, Tergal aspect of the male genitalia.





*Aedes (Cornetius) cozi* Cornet

Fig. 5. *Aedes (Cornetius) cozi*. A. Dorsal and ventral aspects of the head of the fourth instar larva. B. Dorsal and ventral aspects of the thorax and abdomen of the fourth instar larva. C. Lateral aspect of the terminal abdominal segments of the fourth instar larva.

tum with 7 or 8 teeth on each side of central tooth. *Thorax*: Seta 1-P with 4 branches, barbed; 2-4-P single; 5-P usually with 4 branches (3,4), barbed; 6-P single, long, barbed; 7-P usually with 3 branches (3,4), barbed; 9-P single; 11-P single, small; 5,7-M single, long, barbed; 6-M usually with 5 branches (5,6), barbed; 8-M usually with 5 branches (4,5), barbed; 9-M usually with 8 branches (7,8), barbed; 10,12-M single, long, and barbed; 11-M single, small; 7-T with 5 branches, barbed; 9-T usually with 9 branches (8,9), barbed; 10,11-T similar to 10,11-M; 12-T much reduced, single, simple; basal spine of meso- and metapleural setae long, pointed apically. *Abdomen*: Seta 6-I with 5 branches, barbed; 7-I double, barbed; 6-II usually with 3 branches (3,4), barbed; 7-II with 2 branches, barbed; 6-III-V with 3-5 branches, barbed; 6-VI single, barbed; 1-VII single, long, barbed; 2-VII double; 2-VIII distant from 1-VIII; 1-VIII usually single (1,2), long, barbed; 3-VIII usually with 4 branches (4-6), barbed; 5-VIII single, barbed; 2,4-VIII single; comb usually with 4 (3-5) scales in a row, each scale with small basal denticles; saddle incomplete, marginal spicules very small, inconspicuous; seta 1-X with 2 branches; 2-X usually with 6 branches (5,6); 3-X with 4 branches; 4-X with 5 pairs of setae on grid, each seta usually with 3 or 4 branches (2-5); 4e-X very small, with 2 branches; no precratal tufts; anal papillae sausage-like, dorsal pair longer than ventral pair. *Siphon*: About 1.8 as long as width at 0.5 from base, acus absent; usually with 3 (2-5) pecten spines; each spine usually with 1-3 basal denticles; seta 1-S single, long, inserted beyond apical pecten spine and dorsad of pecten spines; seta 2-S single, short, stout, curved.

Type data.—*Aedes (Stegomyia) cozi* Cornet, holotype ♂ (GA 457, ex. ♀ 7), in [ORSTOM]; type locality: SENEGAL.—*Senegal Oriental*: Kedougou (12°33'N, 12°11'W), 6 km N. Kedougou, Galerie, 28-VIII-1972 (M. Cornet). Paratypes: 1 ♂, 1 ♀, 1 L (ex. ♀ 7), same data as holotype

[ORSTOM]; 2 ♂ (ex. ♀ 7), with genitalia on slides (MEP Acc. 724, 82/5, 82/27), 1 ♀ (ex. ♀ 7), with genitalia on slide (MEP Acc. 724, 82/6) and 1 L (MEP Acc. 724), same data as holotype [USNM].

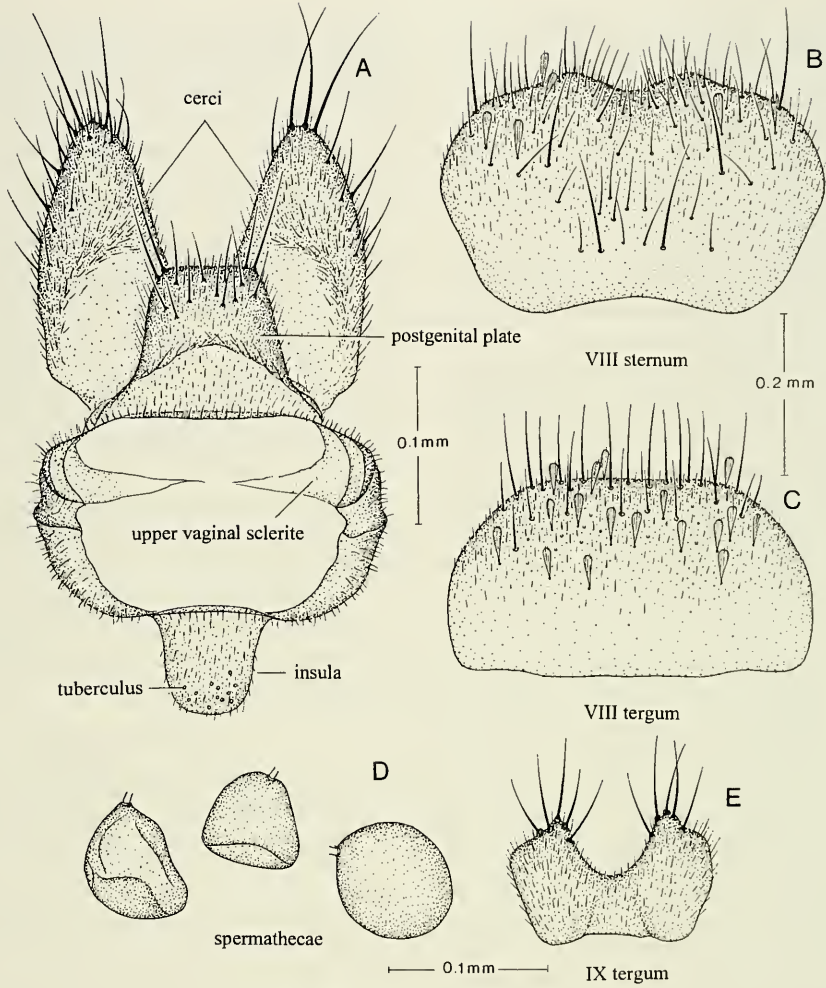
Other material examined.—SENEGAL.—*Senegal Oriental*: Kedougou (12°33'N, 12°11'W), 6 km N. Kedougou, Galerie, 19-XI-1973, M. Cornet, (B.M., 1974-145), 1 ♀ [BMNH]; same data except 22-XI-1973, M. Cornet, (B.M., 1974-145), 1 ♀, 1 ♀ gen (MEP Acc. 719, 82/8) [BMNH]; same data except 10 km N. Kedougou, Galerie, 19-XI-1973, M. Cornet, (B.M., 1974-145), 1 ♀ (MEP Acc. 719) [BMNH]; 3 L, 4 P and 3 4<sup>th</sup> instar larvae on slides (MEP Acc. 724), same data as holotype [ORSTOM]. Kedougou, ex. larva, IX-1983, J.P. Hervy, 4 ♂, 4 ♂ gen (SAMP Acc. 1083, 93/116, 93/117, 04/55, 04/56), 3 ♀, 3 ♀ gen (SAMP Acc. 1083, 93/119, 04/57, 04/58) [USNM]; same data except VI-VIII-1983, J.P. Hervy, 2 ♂, 2 ♂ gen (SAMP Acc. 1083, 04/59, 04/60), 1 ♀ (SEM), 1 ♀ gen (SAMP Acc. 1083, 93/118) [USNM].

Distribution.—This species is known only from Kedougou, Senegal.

Taxonomic discussion.—*Aedes cozi*, formerly placed in the subgenus *Stegomyia*, differs significantly from all other *Stegomyia* species and should be excluded from that subgenus (see the discussion mentioned under the Systematics of *Cornetius*).

The female genitalia of *Ae. cozi* possess characters that agree with Reinert's (2000) diagnostic characters of the female genitalia of genus *Aedes*.

The most important adult characters for determining the subgeneric position in the genus *Aedes* are those of the male genitalia. The male genitalia of *Ae. cozi* possess some rather basic characters in common, and suggest affinities with four subgenera of *Aedes*, namely *Aedimorphus*, *Albuginosus*, *Diceromyia*, and *Stegomyia*. However, *Ae. cozi* shares more important characters in both adult and immature stages with *Stegomyia*



*Aedes (Cornetius) cozi* Cornet

Fig. 6. *Aedes (Cornetius) cozi*. A, Ventral aspect of the female genitalia; B, VIII sternum (dorsal aspect); C, VIII tergum (dorsal aspect); D, Spermathecae; E, IX tergum (dorsal aspect).

than with any other subgenus, suggesting the strongest affinities with that subgenus.

**Bionomics.**—The holotype and paratypes of *Aedes cozi* were reared from eggs collected from a female (No. 7) biting humans in a gallery forest, 6 km N. of Kedougou, eastern Senegal. The females of this species were also taken biting/landing on humans in different gallery forests between 1700–2000 h at Kedougou, Senegal.

**Medical importance.**—Unknown.

**Remarks.**—Although Reinert et al. (2004) substantially revised the classifica-

tion of the tribe Aedini and some of their conclusions are warranted, I do not fully accept their classification for two primary reasons. First, their results were based on a preliminary study. Many groups were only partially treated and large numbers of species remained unplaced in their classification.

Second, the selection of exemplars in some cases did not represent the known complexity and diversity within a group. The subgenus *Diceromyia*, for example, is represented in their study by two exem-



plars, *furcifer* and *taylori*. Both of these species, however, are in the same species complex and species group (Edwards' Group A or African species), and the other species group (Group B), which includes 14 Oriental species, is not represented and may not be monophyletic with the African species. Indeed, my study of *Diceromyia* indicates that this subgenus is presently a heterogeneous assemblage of species that does not form a monophyletic group.

Another subgenus for which the exemplars were not representative is *Stegomyia*. Six species (*aegypti*, *africanus*, *albopictus*, *desmotes*, *futunae*, and *scutellaris*) were used as exemplars in their analysis. These six species, however, represent only four of the eight species groups then recognized (Belkin 1962; Bohart 1956; Huang 1972, 1977, 1979, 1990, 1997). Moreover, I now recognize 11 species groups in the Afrotropical Region alone (Huang 2004), and there are three more species groups in the Oriental and Oceanian regions.

These two subgenera (*Diceromyia*, 28 species, see Reinert et al. 2004: 357; and *Stegomyia*, 127 species including *cozi* Cornet, see Reinert et al. 2004: 365–366) will undoubtedly be shown to be paraphyletic, if not polyphyletic, and the selection of exemplars used in their analysis does not reflect this complexity and diversity. Thus, I feel that it is premature to raise these subgenera to generic status, and I retain both *Diceromyia* and *Stegomyia* as subgenera in the present work.

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